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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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KACVINSKY LLC C/O INTELLEVATE P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER JONES, PRENELL P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/676,279	Applicant(s) O'MAHONY, BARRY A.	
	Examiner Prenell P. Jones	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-22 is/are rejected.
- 7) ☐ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Examiner has withdrawn previous 101 rejections in view of Office policy change.

Specification

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, ***and the abstract should be directed to the entire disclosure.*** If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;

(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range **of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. ***The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.***

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. ***Claims 20-22*** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 20-22, Applicant is claiming a MAC, PHY, which are protocol sub-layers and are not physical things, therefore, the claims are vague and indefinite in that what makes up the apparatus.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 5, 13-17 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PGPUB 2002/0136231) in view of Yang et al (US 2004/0101046).**

Regarding claim 1, 14 and 15, Leatherbury et al (US PGPUB 2002/0136231) discloses a communication system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission (Abstract, paragraph 0010, 0017), and in one embodiment the encapsulation process may include framing data segments into fixed length size frames (paragraph 0012), and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words (paragraph 0018), and in another embodiment, a packetized data is converted/configured/encapsulated into fixed sized frames or code-words (paragraph 0039, 0076), wherein the codeword achieves the

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status of a positive integer (paragraph 0094-0096. In addition, Leatherbury teaches a sync mark byte associated with a codeword (paragraph 0016, 0078, 0086).

Although Leatherbury is not clear on whether the sync mark byte is the first byte of the codeword, in a communication system that utilizes encapsulation Yang discloses communication system utilizing encapsulation wherein the first byte associated with a codeword code-word could include having a first byte being a MPEG sync byte (paragraph 0152, 0330 and 0349, 0350).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a sync byte, which is the first byte of a codeword as taught by Yang with the teachings of Leatherbury for the purpose of minimizing interference as well as increase successful communication..

Regarding claim 2, 3 and 16, Leatherbury further discloses a control byte that follows sync byte as associated with a code-word, as well as a synch marker that indicates start of (Fig. 5).

Regarding claim 12, Leatherbury further discloses transmitting codeword over a media (paragraph 0044, 0045).

3. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view of Yang et al (US 2004/0101046) as applied to claims 1 and 14 above, and further in view of that which is known in the art.

Regarding claim 13 and 17, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury and Yang combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte.

Although, Leatherbury further discloses encapsulating a number of fixed length code-words containing 204 bytes (paragraphs 0096), Leatherbury and Yang both fail to teach having a fixed length codeword with a length of 65 bytes.

Examiner takes official notice that it is by design choice as to the number of bytes that is utilized with respect to the code-word length depending on intended use and application.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a codeword with a length of 65 bytes as taught by that with in known in the art with the combined teachings of Leatherbury and Yang for the purpose of accommodating intended with respect to application.

Regarding claim 20-21, Leatherbury et al (US PG PUB 2002/0136231) discloses a communication system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission (Abstract, paragraph 0010, 0017), and in one embodiment the encapsulation process may include

framing data segments into fixed length size frames (paragraph 0012), and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words (paragraph 0018), and in another embodiment, a packetized data is converted/configured/encapsulated into fixed sized frames or code-words (paragraph 0039, 0076), wherein the codeword achieves the status of a positive integer (paragraph 0094-0096. In addition, Leatherbury teaches a sync mark byte associated with a codeword (paragraph 0016, 0078, 0086) **and PHY coupled to MAC (Fig. 8, paragraph 0083).**

Although Leatherbury is not clear on whether the sync mark byte is the first byte of the codeword, in a communication system that utilizes encapsulation Yang discloses communication system utilizing encapsulation wherein the first byte associated with a codeword code-word could include having a first byte being a MPEG sync byte (paragraph 0152, 0330 and 0349, 0350).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a sync byte, which is the first byte of a codeword as taught by Yang with the teachings of Leatherbury for the purpose of minimizing interference as well as increase successful communication.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view of Yang et al (US 2004/0101046) as applied to claims 1 and 14 above, and further in view of that which is known in the art.

Regarding claim 22, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury and Yang combined discloses a

system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte. In addition, Leatherbury teaches a sync mark byte associated with a codeword (paragraph 0016, 0078, 0086) **and PHY coupled to MAC (Fig. 8, paragraph 0083).**

Although, Leatherbury further discloses encapsulating a number of fixed length code-words containing 204 bytes (paragraphs 0096), Leatherbury and Yang both fail to teach having a fixed length codeword with a length of 65 bytes.

Examiner takes official notice that it is by design choice as to the number of bytes that is utilized with respect to the code-word length depending on intended use and application.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a codeword with a length of 65 bytes as taught by that with in known in the art with the combined teachings of Leatherbury and Yang for the purpose of accommodating intended with respect to application.

5. Claim 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view Yang et al (US 2004/0101046) as applied to claims 1 and 14 above, and further in view of Davis et al (US Pat 5,754,764).

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Regarding claims 5, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury and Yang combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is converted/configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte.

However, in both Leatherbury and Yang encapsulation utilization, they fail to teach or suggest fairly removing a preamble and a start frame delimiter of a frame.

In another communication system wherein encapsulation utilization is utilized, Davis discloses utilizing MAC functionality (col. 61, line 54-67), wherein the frame configuration includes preamble/(start frame delimiter) SFD, wherein a stripping function is employed to strip off the preamble/SFD (col. 62, line 61 thru col. 63, line 25.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement removing a preamble and a start frame delimiter of a frame as taught by Davis with the combined teachings of Leatherbury and Yang encapsulation utilization for the purpose of completing transmission with minimal delay.

Regarding claims 6 and 7, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury and Yang combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length

packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is converted/configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte.

However, in both Leatherbury and Yang encapsulation utilization, they fail to teach or suggest fairly utilizing CRC.

In another communication system wherein encapsulation utilization is utilized, Davis discloses calculating and appending the received CRC (col. 78, line 63 thru col. 79, line 22-26, line 59-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement removing a preamble and a start frame delimiter of a frame as taught by Davis with the combined teachings of Leatherbury and Yang encapsulation utilization for the purpose of completing transmission with minimal delay.

Regarding claim 8, Leatherbury further discloses encapsulating a number of fixed length code-words (paragraphs 0016, 0092).

6. Claims 9-11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view Yang et al (US 2004/0101046) as applied to claims 1 and 14 above, and further in view of Allison et al (US Pat 6,373,848)

Regarding claims 9-11, 18 and 19, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury and Yang combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte.

However, in both Leatherbury and Yang encapsulation utilization, they fail to teach or suggest fairly utilizing selecting a code-word from at least five different types of code-words.

In another communication system wherein encapsulation utilization is utilized, Allison discloses framing/encapsulating in a communication system a multi-port adaptor a single MAC, wherein logic circuitry is reduced for transferring data between a host and TDM communication system, whereby each frame includes a preamble that that is stripped from the start of the frame delimiter, and CRC of remaining frame is determined/calculation, and the CRC is appended to a remaining portion of the frame to provide a complete frame, and the frame includes address pointers/frame markers, wherein the frame includes a start of frame pointer, idle state gap state, first data state, and groups of data (Abstract, Fig. 6, col. 4, line 6-51, col. 6, line 9-44, col. 7, line 13-22, col. 7 thru col. 9).

Therefore, it would have been obvious to one of ordinary skill in the art to implement the first byte of data/codeword as being the synchronization byte and encapsulating a variable length to fixed length code-words as taught by the teachings of Allison with the combined teachings of Leatherbury and Yang for the purpose of improved efficiency in framing/encapsulating as it is associated in a communication system.

Allowable Subject Matter

7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art fail to teach or suggest fairly with regard to claim 4, two sync byte values including a first sync byte value indicating that the codeword is an all data codeword, and a second sync byte value indicating that the codeword is an all data codeword.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

October 26, 2007

PJ.

Wing Fu Chan
10/29/07
WING CHAN
SUPERVISORY PATENT EXAMINER